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TABLE. Additional chromosome numbers in *Lonicera*

SPECIES	<i>n</i>	<i>2n</i>	DOCUMENTATION AND COLLECTOR	GENERAL DISTRIBUTION
Subgenus LONICERA (Subgen. <i>Chamaecerasus</i> (L.) Rehd.) SECT. ISOXYLOSTEUM Rehd.				
Subsect. MICROSTYLAE Rehd.				
<i>L. angustifolia</i> Wall. ex DC.	9		See Mehra & Gill in Löve (1968, p. 576). Based on <i>Mehra & Gill</i> 1291 (PUNJAB), Simla, W. Himalayas	Himalayas
* <i>L. syringantha</i> Maxim.	18		AA 405-35, <i>Palmer</i> , 1 June & 26 Aug. 1936	North & West China
*var. <i>wolffi</i> Rehd.	18	36	AA 4992-2, <i>Allen</i> , 1 June 1927, also <i>Dudley</i> & <i>Dodd</i> , 28 May 1965	West China
*cv. <i>Grandiflora</i>		36	AA 1089-61, <i>Rüdenberg</i> , 18 May 1966	
Sect. ISIKA (Adans.) Rehd.				
Subsect. CAERULEAE Rehd.				
<i>L. villosa</i> (Mich.) Roem. & Schult.		18	See Löve & Löve (1966, p. 51). Based on <i>Löve & Löve</i> 7496 & 7591, Mt. Wash- ington, New Hampshire	Northeastern North America
Subsect. PILEATAE Rehd.				
* <i>L. pileata</i> Oliv.		18	AA 151031-B, <i>Dudley &</i> <i>Dodd</i> , 28 May 1965	Central and western China
	9		AA 225-28-E, <i>Green</i> , 4 Nov. 1965 and (as 225-28) <i>Kobuski & Roush</i> , 14 Sept. 1931	
* <i>L. nitida</i> Wils.		18	AA 923-49, <i>Green</i> , 4 Nov. 1965	Western China
Subsect. VESICARIAE (Komar.) Rehd.				
<i>L. ferdinandii</i> Franch.		18	AA 21595 (<i>Rock 13519</i> , Kansu, 1925), <i>Kreps</i> , 25 May 1964	Northern China
Subsect. BRACTEATAE (Hook. f. & Thoms.) Rehd.				
<i>L. altmannii</i> Reg. & Schmalh.		18	AA 14999, <i>Rehder</i> , 5 May 1927	Turkestan
*var. <i>pilosiuscula</i> Rehd.		18		
Subsect. DISTEGIAE (Raf.) Rehd.				
<i>L. involucrata</i> (Richards.) Banks ex Spreng.		18	See Taylor & Mulligan (1968, p. 109). Based on <i>CTS</i> 35077 & <i>CT 35434</i> , Graham Is., British Colombia	Northern America and south into Rocky Mts.
	9			
Subsect. ALPIGENAE Rehd.				
<i>L. alpigena</i> L.		36†	AA 14994-1, <i>Allen</i> , 13 August 1927	Central and southern European Mts.
f. <i>nana</i> (Carr.) Zabel		36	AA 803-35, <i>Green</i> , 26 May 1965	

* This is the first publication of a documented count for this taxon.

† Due to an error $2n = 18$ was incorrectly recorded for this plant in part I, p. 234.

TABLE. Additional chromosome numbers in *Lonicera* (Continued)

SPECIES	<i>n</i>	<i>2n</i>	DOCUMENTATION AND COLLECTOR	GENERAL DISTRIBUTION
Subsect. RHODANTHAE (Maxim.) Rehd.				
* <i>L. tatarinowii</i> Maxim.		18	AA 17-44-B (<i>Meyer</i> 1938a, China, 1913), <i>Palmer</i> , 27 May 1936	Northern China & Korea
<i>L. maximowiczii</i> (Rupr.) Maxim.		36	AA 10102-C (<i>Wilson</i> 8875, Korea, 1917), <i>Dudley</i> , 4 June 1965, and <i>Rüdenberg</i> , 25 May 1966	Saghalin and Korea
*var. <i>sachalinensis</i> Fr. Schmidt	18		AA 598-38-B, <i>Dudley</i> , 4 June 1965, and <i>Rüdenberg</i> , 25 May 1966	
<i>L. orientalis</i> Lam.		18	AA 201-38-A, <i>Dudley</i> , 4 June 1965	Asia Minor to western China
	9		AA 956-34 (<i>Balls</i> 1656, Turkey, 1934), <i>Green</i> , 2 June 1964	
*var. <i>longifolia</i> (Dipp.) Rehd.		18	AA 15102, <i>Palmer</i> , 13 June 1940	
Sect. LONICERA (Sect. <i>Coeloxylosteum</i> Rehd.)				
Subsect. TATARICAE Rehd.				
<i>L. tatarica</i> L.		18	AA 288-41-A, <i>Green</i> , 31 May 1965	Eastern Europe to Turkestan
	9		AA 69-64, <i>Rüdenberg</i> , 10 May 1968	
<i>f. sibirica</i> (Pers.) Rehd.	9		AA 716-45-B, <i>Kreps</i> , 26 May 1964	
*cv. Albo-Rosea	9	18	AA 1199-62, <i>Gibson</i> , 17 May 1968	
*cv. Cardinal 101	9	18	AA 96-61, <i>Rüdenberg</i> , 27 May 1966	
*cv. Plumfield Red	9		AA 97-61, <i>Rüdenberg</i> , 27 May 1966	
*cv. Red Giant	9	18	AA 1240-64, <i>Rüdenberg</i> , 10 May 1968	
<i>L. × xylosteoides</i> Tausch	9		AA 15141, <i>Kobuski &</i> <i>Metcalf</i> , 16 May 1930	Cultivation
Subsect. OCHRANTHAE (Zabel) Rehd.				
<i>L. × notha</i> Zabel	9		AA 762-64, <i>Rüdenberg</i> , 10 May 1968	Cultivation
		18	AA 572-1-A, <i>Palmer</i> , 15 May & 7 July 1936 (as AA 572)	
<i>L. morrowii</i> A. Gray	9		AA 1232-53, <i>Green</i> , 26 May 1965	Japan
<i>L. × bella</i> Zabel	9		AA 1023-60, <i>Gibson</i> , 17 May 1968	Cultivation

* This is the first publication of a documented count for this taxon.

TABLE. Additional chromosome numbers in *Lonicera* (Continued)

SPECIES	<i>n</i>	<i>2n</i>	DOCUMENTATION AND COLLECTOR	DISTRIBUTION GENERAL
<i>L. × muendeniensis</i> Rehd.	9		AA 1314-62, <i>Rüdenberg</i> , 10 May 1968	Cultivation
	9		AA 793-64, <i>Rüdenberg</i> , 10 May 1968	
		18	AA 1193-65, <i>Rüdenberg</i> , 10 May 1968	
f. <i>xanthocarpa</i> Hort.		18	AA 188-36-A, <i>Kreps</i> , 25 May 1964	
<i>L. xylosteum</i> L.	9		AA 765-34, <i>Rüdenberg</i> , 26 May 1966	Europe to Altai Mts.
	9		AA 358-62, <i>Gibson</i> , 17 May 1968	
*f. <i>mollis</i> (Regel) Rehd.	9		AA 66-37, <i>Kreps</i> , 26 May 1964	
*cv. Nana	9		AA 626-62, <i>Rüdenberg</i> , 16 May 1968	
<i>L. chrysantha</i> Turcz.	9		AA 1044-37-A, <i>Green</i> , 31 May 1965	Northeast Asia and Japan
f. <i>regeliana</i> (Kirchn.) Rehd.	9		AA 587-54, <i>Green</i> , 20 May 1965	
* <i>L. × pseudo-chrysantha</i> Braun ex Rehd.	9		AA 686-54, <i>Rüdenberg</i> , 18 May 1966	Cultivation
<i>L. koehneana</i> Rehd.	9		AA 632-64, <i>Rüdenberg</i> , 10 May 1968	Western China
<i>L. maackii</i> (Rupr.) Maxim.	9	18	AA 15109-2, <i>Palmer</i> , 13 June & 7 Oct. 1940, and <i>Flint</i> , 19 Sept. 1966	Manchuria and China
f. <i>podocarpa</i> Franch. ex Rehd.		18	AA 7190-B (<i>Wilson 194</i> , W. Hupeh, 1907), <i>Dodd</i> , 28 June 1965, and <i>Flint</i> , 19 Sept. 1966	China
		18	AA 12319 (<i>Hers 1358</i> , China, 1919), <i>Palmer</i> , 27 May & 9 Sept. 1936, and <i>Flint</i> , 19 Sept. 1966	
		18	AA 15050-B (<i>Wilson 194bis</i> , W. Hupeh, 1907), <i>Palmer</i> , 24 Sept. 1936, and <i>Dudley</i> & <i>Dodd</i> , 28 June 1965, and <i>Flint</i> , 19 Sept. 1966	
		18	AA 23153-A, <i>Dudley & Dodd</i> 28 June 1965, and <i>Flint</i> 19 Sept. 1966	
<i>L. quinquelocularis</i> Hardw.				
f. <i>translucens</i> (Carr.) Zabel		18	AA 213-59-A, <i>Green</i> , 21 June 1965	Afghanistan to the Himalaya
		18	AA 213-59-B, <i>Appenzeller</i> , 9 June 1966	
Sect. NINTOOA (Sweet) Maxim.				
Subsect. LONGIFLORAE Rehd.				
<i>L. japonica</i> Thunb.				
*var. <i>halliana</i> (Dippel) Nicholson		18	AA 953-1, <i>Sargent</i> , 12 July 1884	Eastern Asia

* This is the first publication of a documented count for this taxon.

TABLE. Additional chromosome numbers in *Lonicera* (Continued)

SPECIES	<i>n</i>	<i>2n</i>	DOCUMENTATION AND COLLECTOR	GENERAL DISTRIBUTION
*var. <i>repens</i> (Sieb.) Rehd.	9	18	AA 897-49, <i>Appenzeller</i> , 20 June 1966	
*cv. Aureo-Reticulata		18	AA 1445-63, <i>Fordham</i> , July 1965	
Subgenus CAPRIFOLIUM (Adans.) Dippel (Subgen. <i>Periclymenum</i> (Mill.) Rehd.)				
Subsect. CYPHEOLAE (Raf.) Rehd.				
* <i>L. glaucescens</i> Rydberg	9	18	AA 1031-52-A, <i>Appenzeller</i> , 9 June 1966	Northeastern North America
Subsect. EUCAPRIFOLIA (Spach) Rehd.				
* <i>L. caprifolium</i> L.	9		AA 699-62, <i>Dudley</i> , 10 July 1965	Europe and western Asia
* <i>L.</i> × <i>heckrottii</i> Hort. ex Rehd.		ca. 45	AA 113-49-A, <i>Rüdenberg</i> , 8 June 1966, and <i>Gibson</i> , 14 June 1968	Cultivation

* This is the first publication of a documented count for this taxon.

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EXPLANATION OF PLATES

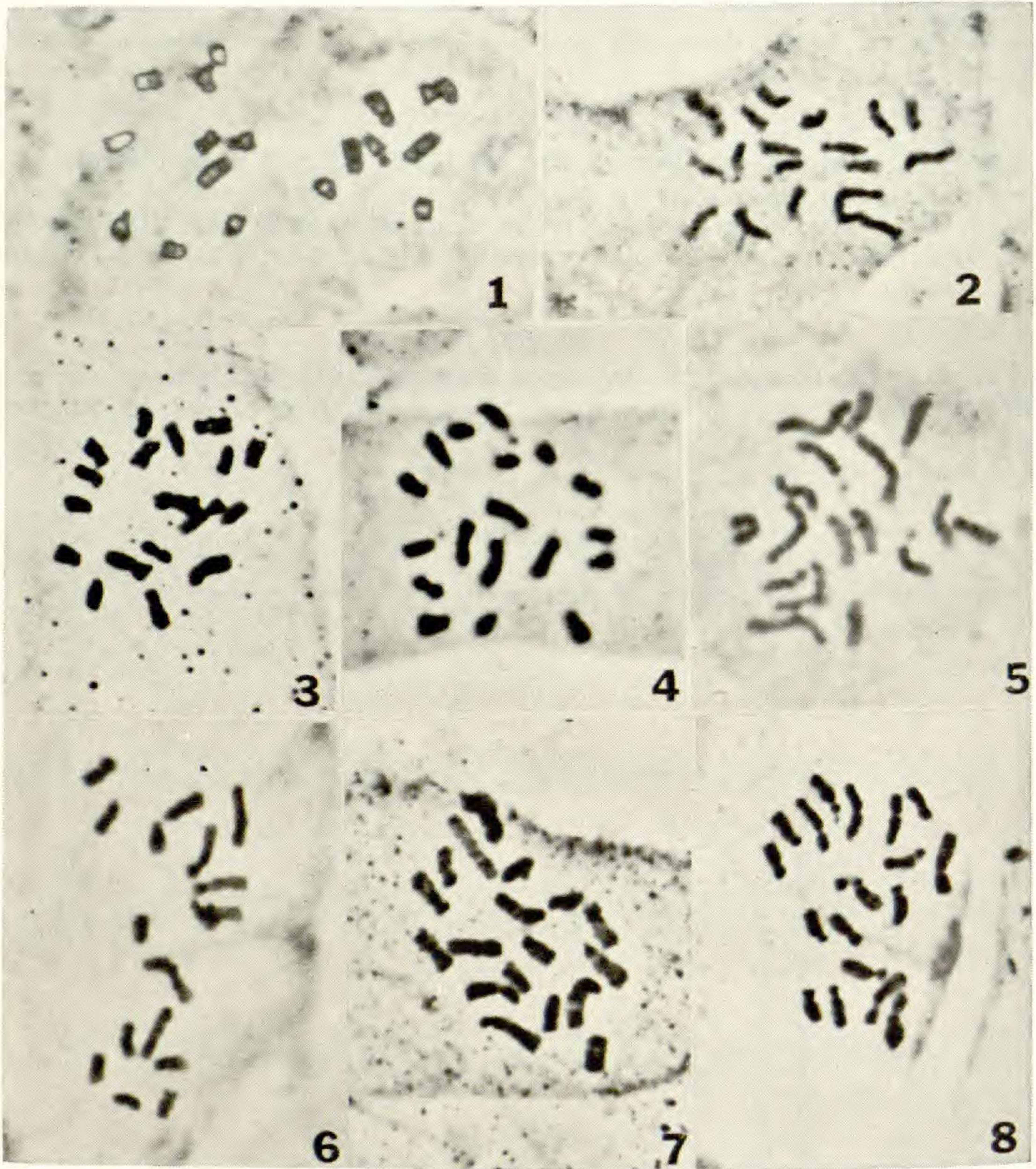
FIGURES 1-10. Mitotic divisions in species of *Lonicera*. All photomicrographs (\times ca. 1800) show cells at metaphase with the exception of FIG. 9, which is at late prophase.

PLATE I

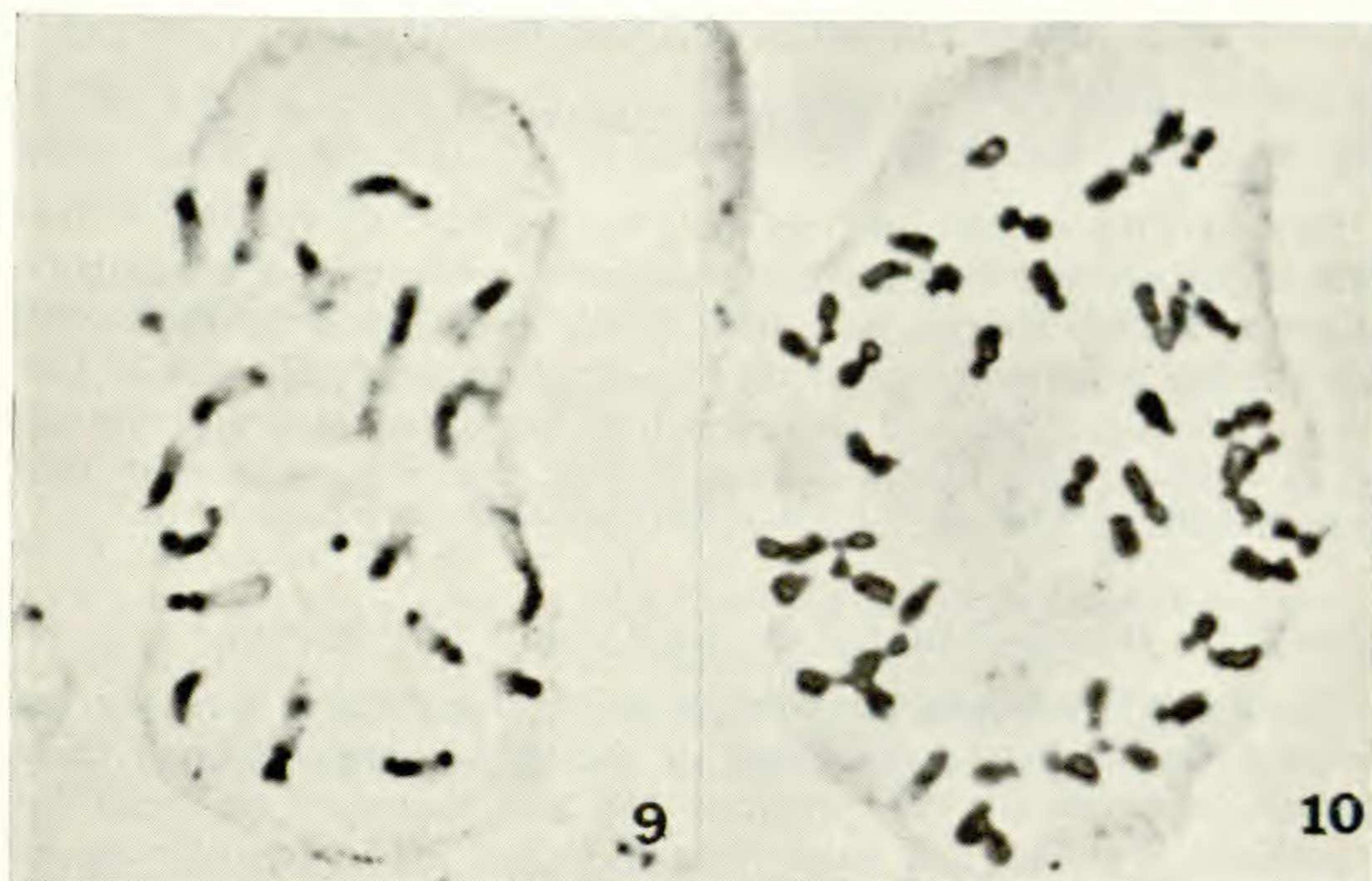
FIG. 1, *L. altmannii* var. *pilosiuscula* (AA 14999); FIG. 2, *L. involucrata* (AA 16-44); FIG. 3, *L. modesta* (AA 24-36); FIG. 4, *L. morrowii* (AA 1283-65); FIG. 5, *L. \times bella* (AA 48-42-B); FIG. 6, *L. chrysantha* (AA 1044-37-A); FIG. 7, *L. japonica* cv. Aureo-Reticulata (AA 1445-63); FIG. 8, *L. etrusca* (AA 231-46).

PLATE II

FIG. 9, *L. etrusca* (AA 231-46), note differentially stained chromosome segments at end of prophase. FIG. 10, *L. \times heckrottii* (AA 113-49-A), ca. pentaploid.



RÜDENBERG & GREEN, LONICERA, II



RÜDENBERG & GREEN, LONICERA, II

NOTES ON WEST INDIAN ORCHIDS, I

LESLIE A. GARAY

DURING THE COURSE of routine identifications of collections from various parts of the West Indies, several new species as well as a number of nomenclatorial changes have been noted. A study of the flora of the West Indies is currently under way by Dr. Richard A. Howard of Harvard University, which will document both the distribution and diversity of all orchid species known in that floristic region. In the mean time, notes, similar to this one, will be published seriatim.

Habenaria Dussii Cogn. in Urb. Symb. Antill. 6: 307. 1909.

There is a flower from the holotype of *H. Dussii* Cogn. given by Professor Cogniaux to the collections of the Orchid Herbarium of Oakes Ames. Since then the type specimen has been destroyed in Berlin during World War II. This single flower enabled me to identify the following two collections reported for the first time outside the island of Guadeloupe.

Puerto Rico: Sierra de Luquillo, open grass-sedge savannah, wet, in cloud forest along El Toro trail, south side of El Yunque, *R. A. Howard & G. Taylor 18701* (AMES).

St. Vincent: St. David Parish, Soufrière Mountain, in tundra-like growth at elevation of 2800 ft. Entire plant green, *G. R. Cooley 8446* (AMES).

Cryptophoranthus erosus Garay, sp. nov.

FIG. 1a-d.

Epiphytica, caespitosa, usque ad 3 cm. alta; radicibus crassiusculis, elongatis, satis profusis, flexuosis, glabris; caulibus secundariis erectis, abbreviatis, vaginis infundibuliformibus obtectis, usque ad 5 mm. longis; foliis oblongo-lanceolatis, carnosis, acutis, basin versus sensim in petiolo 1-2 mm. longo attenuatis, margine erosis, usque ad 2.5 cm. longis, 5 mm. latis; inflorescentiis abbreviatis, sessilibus, unifloris; bracteis ovato-cucullatis, dorsaliter carinatis, 4 mm. longis; floribus satis magnis, carnosulis, atropurpureis; sepalo postico spathulato-rhombeo, valde concavo, 3-nervio, dorsaliter apicem versus carinato mucronatoque, 14 mm. longo, 6.5 mm. lato; sepalis lateralibus usque ad apicem in synsepalo conniventibus, valde concavis, dorsaliter carinatis, acutis, 15 mm. longis, inter se 6 mm. latis; petalis carnosis, subfalcato-lanceolatis, acuminatis, univerviis, 4 mm. longis, 1 mm. latis; labello breviter angustaque unguiculato, deinde suborbiculari expanso, margine valde eroso; disco utrinque carnosus carinato in medio, antice pectinato, 4.5 mm. longo, 3 mm. lato;

columna clavata, late alata, clinandrio lacero; ovario cylindrico, verrucoso, 2 mm. longo.

Dominican Republic: in the vicinity of Constanza. Flowers deep purple. Collected by Rev. Donald Dod and cultivated by him for Bro. Alain H. Liogier 13508 (NY, type!).

This new species vegetatively resembles *C. sarcophyllus* (Rchb.f.) Schltr. from Venezuela, but the latter has broader, entire leaves, as well as dissimilar petals and lip.

Pleurothallis Dодii Garay, nom. nov.

Basionym: *Pleurothallis cryptantha* Cogn. in Urb. Symb. Antill. 7: 176. 1912, not Barb. Rodr. 1877.

A recent collection by Rev. D. Dod, s.n. (NY), of this rare species in the **Dominican Republic:** Las Abejas, Cabo Rojo, has shown that the disc of the lip is covered with fine, but sparsely distributed, hairs as are the margins. This character, although not mentioned in the original description by Cogniaux, is present on the holotype which I have recently examined in Bruxelles.

Lepanthopsis Dодii Garay, sp. nov.

FIG. 2e-f.

Epiphytica, caespitosa, usque ad 8 cm. alta; radicibus filiformibus, flexuosis, glabris; caulibus secundariis erectis, gracilibus, vaginis satis distantibus, adpressis, sursum dilatatis hispidulisque omnino obtectis, usque ad 4 cm. longis; foliis tenuibus, ellipticis, acutis vel obtusiusculis, margine muricato-denticulatis, usque ad 2 cm. longis, 6 mm. latis; inflorescentiis capillaribus, subdense multifloris, usque ad 4 cm. longis; bracteis infundibuliformibus, acuminatis, 1 mm. longis; floribus tenuibus, diaphanis, patentibus, glabris; sepalo postico ovato-lanceolato, acuminato, uninervio, 2 mm. longo, 1 mm. lato; sepalis lateralibus inter se usque ad medium connatis, ovato-lanceolatis, acuminatis, uninervis, 2 mm. longis, inter se 1.5 mm. latis; petalis ellipticis vel subrhombeis, acutis vel obtusis, 1 mm. longis, 0.5 mm. latis; labello carnosio, triangulati-cordato, 3-nervio, 1 mm. longo latoque; columna humili, crassa, apoda; ovario pedicellato 2 mm. longo.

Dominican Republic: Polo, epiphytic on trees, Rev. D. Dod 43 (AMES, type!).

Lepanthopsis Dодii Garay differs from *L. acuminata* Ames in having smaller flowers, proportionately shorter and broader sepals, and differently shaped petals.

Since my revision of the genus in *The Orchid Journal* 2: 467-469. 1953, I have examined the types of all West Indian *Pleurothallis* species. Among these species the following need to be transferred to the genus *Lepanthopsis*.

Lepanthopsis barahonensis (Cogn.) Garay, comb. nov.

Basionym: *Pleurothallis barahonensis* Cogn. in Urb. Symb. Antill. 7: 177. 1912.

Lepanthopsis blepharophylla (Griseb.) Garay, comb. nov.

Basionym: *Pleurothallis blepharophylla* Griseb. Cat. Pl. Cub. 260. 1866.

Lepanthopsis dentifera (L. O. Wms.) Garay, comb. nov.

Basionym: *Pleurothallis dentifera* L. O. Wms. in Ceiba 1: 227. 1951.

Lepanthopsis Fuertesii (Cogn.) Garay, comb. nov.

Basionym: *Pleurothallis Fuertesii* Cogn. in Urb. Symb. Antill. 7: 178. 1912.

Brachionidium ciliolatum Garay, sp. nov.

FIG. 3g-j.

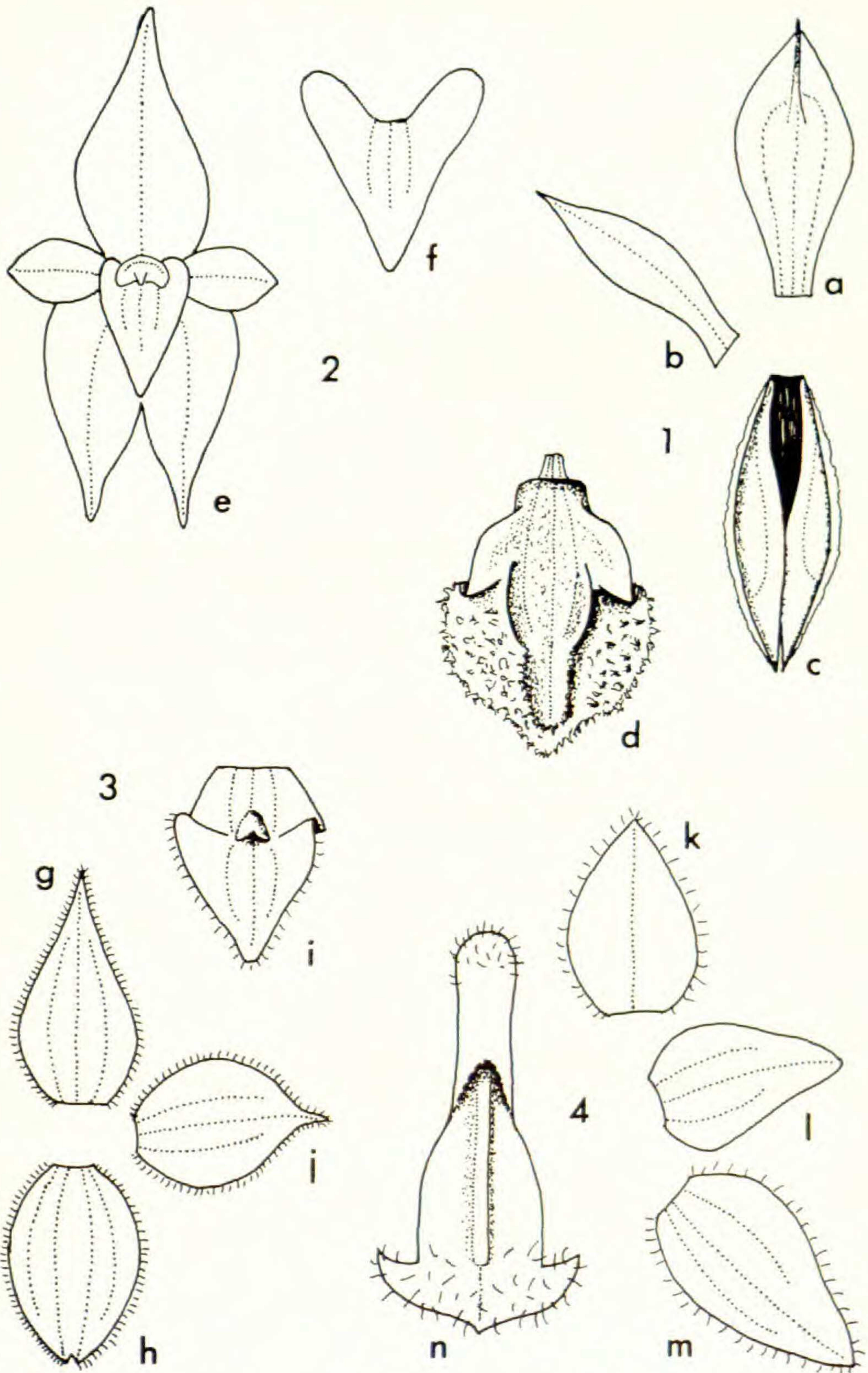
Epiphytica, parvula, ascendenti, usque ad 7 cm. alta; radicibus filiformibus, glabris; rhizomate ascendenti, cauliformi, vaginis scariosis, infundibuliformibus imbricantibusque omnino obtecto; caulibus secundariis vix ullis, monophyllis; foliis pergameneis, oblongo-ellipticis, acutis, subpetiolatis, usque ad 2 cm. longis, 5 mm. latis; inflorescentiis singulis, unifloris; pedunculo capillari, in medio univaginato, usque ad 3 cm. longo; bracteis infundibuliformibus, ovariis pedicellatis aequilongis; floribus pro genere satis parvulis, ciliolatis; sepalo postico ovato-lanceolato, subacuminato, 3-nervato, margine ciliolato, 7 mm. longo, 4 mm. lato; sepalis lateralibus usque ad apicem connatis, ibi bidentatis, ellipticis, obtusis, 4-nervatis, margine ciliolatis, 6 mm. longis, 4 mm. latis; petalis ellipticis, apice subito in apiculo triangulari-subfalcato, acuminato productis, 3-nervatis, margine ciliolatis, 6 mm. longis, 4 mm. latis; labello carnosio, e cuneata basi subsigmoideo, antice triangulari, acuto, 3-nervato, margine valde ciliolato; disco callo pulvinari, antice exciso ornato; toto labello 3 mm. longo, 2.5 mm. lato; columna humili, crassa, vix 1 mm. alta; ovario pedicellato ca. 2 mm. longo.

Puerto Rico: Pico del Oeste, Sierra de Luquillo, 1020 m. alt. Epiphytic orchid, plants with 3-4 leaves; flowers yellow-green, apparently do not open. Study trail area. *R. A. Howard & L. I. Nevling 16929* (AMES, type!).

This new species closely resembles *B. parvum* Cogn. both in size and in general appearance. It differs, however, in the shape of the floral segments which are not caudate. Both *B. tetrapetalum* (Lehm. & Krzl.) Schltr., and *B. simplex* Garay, although similar in appearance to *B. ciliolatum* Garay, have dissimilar and eciliate lips.

Epidendrum isochilum var. **tridens** Rchb. f. in Ber. Deutsch. Bot. Ges. 3: 277. 1885.

Syn.: *Epidendrum belvederense* Fawc. & Rendle in Jour. Bot. 47: 123. 1909.



FIGURES 1-4, West Indian orchids. FIG. 1, a-d, *Cryptophoranthus erosus* Garay; FIG. 2, e-f, *Lepanthopsis Dodii* Garay; FIG. 3, g-j, *Brachionidium ciliolatum* Garay; FIG. 4, k-n, *Campylocentrum constanzense* Garay. All figures greatly magnified.

There appears to be no distinction between *Epidendrum belvederense* Fawc. & Rendle and *E. isochilum* var. *tridens* Rchb. f. as a study of the holotypes indicates. Judging from the number of specimens which I have examined of this species from the Dominican Republic, this variety seems to be much more common than the typical variety, which is described as having an entire lip.

Epidendrum neoporpax Ames in Bot. Mus. Leaflet. Harvard Univ. 2: 112. 1934.

Basionym: *Epidendrum Porpax* Rchb. f. in Flora 48: 278. 1865 not Rchb. f. 1855.

Syn: *Epidendrum vestitum* Ames in Sched. Orch. 4: 51. 1923.

Epidendrum Porpax var. *domingensis* Cogn. in Urb. Symb. Antill. 7: 181. 1912.

This rather rare Cuban species has been found recently in Costa Rica, and rediscovered by Mr. *Ariza Julia*, s.n., in the **Dominican Republic**: Sabaneta de Yasica, Puerto Plata Province. An examination of the type of *Epidendrum Porpax* var. *domingensis* Cogn. in the Bruxelles herbarium convinces me that it is identical with *E. neoporpax* Ames.

Epidendrum Sintenisii Rchb. f. in Ber. Deutsch. Bot. Ges. 3: 277. 1885.

Syn.: *Epidendrum monticolum* Fawc. & Rendle in Jour. Bot. 47: 124. 1909.

Recently I had the opportunity to examine and to compare the holotypes of *E. Sintenisii* Rchb. f. and *E. monticolum* Fawc. & Rendle. As a result of this study, I am convinced that they are conspecific. *Epidendrum Sintenisii* is now recorded from Puerto Rico and Jamaica.

Stellilabium minutiflorum (Krzl.) Garay, comb. nov.

Basionym: *Telipogon minutiflorus* Krzsl. in Ann. Nat. Hist. Mus. Wien 33: 14. 1919.

Syn.: *Telipogon Lankesteri* Ames Sched. Orch. 3: 23. 1923.

Stellilabium Helleri L. O. Wms. in Brittonia 14: 443. 1962.

This rather rare Costa Rican species has recently been found in the **Dominican Republic**: Casalito Bonao by *Rev. D. Dod*, s.n. (NY). This is also a new record for the West Indies. *Stellilabium Helleri* L. O. Wms., of which I also have studied the holotype, agrees in every respect with Kraenzlin's type material which I examined in Vienna. *Telipogon Lankesteri* Ames likewise, does not offer any criterion by which it could be kept separate from *S. minutiflorum* (Krzl.) Garay.

Polyradicion Garay, gen. nov.

Pfizer in describing the genus *Polyrrhiza* stated that it consists of four West Indian species. Of these four he mentioned only one in making